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K-25 Oral History Interview

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Interviewee: John McLaughlin

Interviewer: Bart Callan

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[1:00:04]

Callan, B.: Let's start off with the hard questions first. And that's go ahead and state your name and spell your name for me again so we have it preserved on the camera.

McLaughlin, J.: My name is John McLaughlin, M-C-L-A-U-G-H-L-I-N.

Callan, B.: How old are you and when were you born?

McLaughlin, J.: Well, I'm presently 75. I was born April the 28th, 1929.

Callan, B.: Where were you born?

McLaughlin, J.: Tyrone, Pennsylvania. I was born at home.

Callan, B.: Talk a little bit about your background and where you were living prior to coming to work at K-25.

McLaughlin, J.: Okay. I lived in Tyrone. I'm a graduate of Penn State. I -- after I graduated from Penn State in 1951, I went to work in a crystal structure laboratory at the university. And I came to Oak Ridge on the 2nd of May, 1955. I had applied for a job and apparently they were looking for somebody with the experience of working in an x-ray defraction laboratory, which is part of the crystal structure lab up there.

[1:02:18]

And I came here on the 2nd of May, 1955, went to work, and I was here six months and then my friends and neighbors back in Pennsylvania decided that I should participate in the United States Army.

So I went to the Army for two years and was not allowed out of the country because I knew what made the diffusion plant run. And this was not long after the Korean War. And the Korean War, they had a bunch of people that deserted and went over to the North Korean side. And, as a result, I wasn't allowed out of the country. So they assigned me to the First Armored Division in Fort Polk, Louisiana.

And I don't have much good to say about Fort Polk, Louisiana. It's full of sand, snakes, and pine trees.

And in 1957, on November 15th, I started back to work at K-25, and I worked there until I think it was September 1971, when Bill Wilcox asked me to go over to Y-12 because they had specific kind of instrument that was very expensive and we didn't have the money in the budget to buy one for K-25. It was an ion microprobe mass analyzer. And he asked me to go over there and do work on gaseous diffusion materials because the operator of the instrument at Y-12 wasn't cleared for K-25 information.

[1:04:29]

So we worked two shifts. I worked in the -- we'd trade off, 7 to 3 and 3 to 11. And on my shift I worked on gaseous diffusion stuff, and -- but I was also cleared for the Y-12 stuff.

So, and, I stayed there until the 1st of August, 1992, and primarily did electron microscopy and material science -- material science applications, analyzing corrosion products and surface defects, using a variety of surface analytical instruments.

Callan, B.: What attracted you to come work down here?

McLaughlin, J.: Money! [laughs] I was working for 285 dollars a month at Penn State, and they offered me 425 dollars a month to come here. And they moved my family and everything here for me. So I came.

Callan, B.: What were your first recollections or thoughts when you saw K-25 or when you arrived out here?

McLaughlin, J.: It was kind of scary. They had just gotten K-33 on line and I went into employment on that Monday morning on the 2nd of May, and the place was full of people. And I thought boy, this place is really booming. It turned out that everybody but me was left over from being terminated because they were reducing the force. They didn't need them anymore since K-33 was now in operation. And I was the only guy going to work and all these guys were getting laid off.

[1:06:46]

And I was a little apprehensive about it. "I wonder if this was going to last." [laughs] But I went right to work on problems with uranium and uranium oxides. I guess just about everybody that I

worked with is gone. There's -- I can only think of two people that are still living. Unfortunately, one of them is an Alzheimer's patient and so I guess I'm pretty much the last of that group.

Callan, B.: What years did you work at the K-25 site?

McLaughlin, J.: From --

Callan, B.: Can you kind of go through the whole spectrum of your work history here?

McLaughlin, J.: Oh okay. I worked from May of 1955 through September of 1971 at K-25 in the Development Division. And then I worked at Y-12 from September 1971 until August of 1992 in the Development Division at Y-12. And my primary work was with the electron microscope and electro microprobe. I did some optical microscopy.

[1:09:07]

Funny part, I had two supervisors. My first one at K-25 and one at Y-12, both of whom had graduated with degrees in optical microscopy, and both of these guys were color blind. And how they could see the different color changes under the microscope has always puzzled me. But I really enjoyed my work, and the thing that caused me to retire at 63, they took the fence down from around our building at 9203 at Y-12 and sent most of my work to Los Alamos because it was classified -- highly classified work. And they wanted me to write procedure. I'm not a writer. [laughs] I figured if somebody comes in and they have to read a whole bunch of procedures to operate the instruments and do the work then their -- I didn't do that and I didn't know anybody I worked with that did that.

So -- and that caused me to retire and I -- but I really enjoyed going to work. I really did. It was a lot of fun to do the things. When you're working with electron microscope, you're looking at things on a scale that we can't see with the naked eye. And everything you see is -- you're seeing it for the first time. And it's kind of exciting work, really. As far as I know, nobody has touched my electron microscope at Y-12 since I left.

[1:11:23]

Callan, B.: I wouldn't even know what one looks like.

McLaughlin, J.: [laughs]. It's a humongous machine. You couldn't fit in this room. It's taller than the ceiling here. They're about nine feet tall or something like that.

Callan, B.: What is the difference between the type of work that you did or the type of work that was done here and then what was done in Los Alamos? How was this area different?

McLaughlin, J.: Oh we both worked -- the people at Los Alamos -- we kept in touch, Livermore and Los Alamos, when I was at Y-12. Now at K-25, that was a different thing. We really didn't have a whole lot of contact with any of the design agencies. But we would interact -- our work was primarily with the materials and surface reaction and reactions that occurred as a result of different materials being in contact with each other. And that caused corrosion and you look at it and determine what's actually going on chemically.

Now at K-25, our work was primarily troubleshooting things that happen to the barrier. We did a lot of things at K-25 that a lot of basic research into the corrosion of nickel by fluorine. We did some things out there that I don't think anybody has ever done. I know they didn't -- hadn't done it before we did. And I don't think they've done it since.

[1:13:44]

McLaughlin, J.: An electron microscope is a very sensitive piece of equipment and has to be ultra clean. But we had one rigged up where we could pipe fluorine into the other sample chamber of the electron microscope and actually react thin single crystals of nickel with fluorine to watch the formation of nickel fluoride as it occurred. And we actually took movies of this.

We did a lot of other things too in addition to gaseous diffusion. We were working on the beginnings of the gas centrifuge. We made the -- some gas centrifuges, although that technology has, as far as I know, is still classified. So I really can't go into what we did there, except that we made them. [laughs] And they worked. [laughter]

Callan, B.: If someone were to inquire or to ask what was the work that was

done here at K-25, how would you describe it?

McLaughlin, J.: Oh my goodness! You mean before I got there, or --

Callan, B.: I would say just --

[1:15:42]

McLaughlin, J.: Just the overall work?

Callan, B.: Yes.

McLaughlin, J.: Well, it's fantastic. There was -- there had never been a building that housed -- that was so much acreage under one roof. The fact that the entire system was operated below atmospheric pressure, which made it a giant vacuum system on a scale that nobody probably ever dreamed of until they did what they did. And the barrier was -- it's classified. But it was a fantastic technical achievement, to be able to make this porous material that would keep the U^{235} hexaflouride on one side and U^{238} hexafluoride on the other side.

And they had motors on the compressors that the horsepower had been unheard of with electric motors. It was a scientific marvel, really, and engineering marvel. And, of course, everything is classified. I used to tell people that we had these big containers that were filled with Chinamen with little tweezers that picked out the different molecules and that's how we did our work.

Callan, B.: So it counts as a secret. [laughter] What are some of your most vivid recollections of the time you spent here, favorite memory?

[1:17:58]

McLaughlin, J.: Oh my goodness! Well, raising two children in a great school system. Tremendous opportunities the kids had here in town. I mean, if they wanted to play tennis at one o'clock in the morning, they go to the tennis court and turn on the light and play tennis. If they -- we had this huge outdoor swimming pool that at one time was the biggest swimming pool in the southeast. Tremendous opportunity of all kinds of sports, music, the arts.

And then the grandchildren came along and they have availed

themselves the very same opportunities that their mothers and fathers had. As I told Jennifer, I said, "Oak Ridge is a great place." It's a great place to live and raise kids.

When I came here, there were 28,000 people in the city of Oak Ridge. And we're about 29,000 people now. It's never changed much. It's a well laid out city. We have good police protection, good fire protection, in spite of that place burning down at the east end of town yesterday.

Callan, B.: I didn't hear about that.

McLaughlin, J.: Oh yeah. And I bought one of the original Cemesto houses and I'm still living in that house. I've been there for 44 years and raised two children and five grandchildren that, matter of fact, that's why I was a little late getting here this morning because my one grandson, who is a student at Middle Tennessee State, stopped by. He's on spring break and he stopped in to see my wife and I.

[1:21:01]

But I wouldn't want to live anywhere else, not in Knoxville. I'd like to stay on this side of the bridge.

Callan, B.: What did you like the most and what did you like the least about working at K-25?

McLaughlin, J.: Well, I think the thing I liked the most was that most of the time I worked in Bill Wilcox's department. And they pretty much told me what the problems were or what they wanted me to do and then let me go ahead and do it my own, on my own. I was pretty much my own boss, really. And gee, I can't -- I'm having to really rack my brain about what I didn't like, really. Even the food was good in the cafeteria. [laughs]

Callan, B.: The only answer I've gotten from some people is I guess there was a time, and I don't know if it was before '55, there was shift work. People said they didn't like having to do shift work.

McLaughlin, J.: Well, I had to do some. And we worked overtime. It didn't bother us. We had a job to do. We knew what had to be done, and we stayed there until we got it finished. No, I guess the worst part was the traffic going to and from work, although when I first started to work at K-25, we rode the bus. We had a bus system in town. The

bus stopped right in front of my front door. They took us right to the portal at K-25. And -- but -- no, I just enjoyed what I was doing. Maybe I was too dumb to [laughs] --

[1:24:08]

The shift work, it didn't -- we didn't have shift work all the time in the Development Division, but I can appreciate the guys out in the plant that -- they had rotating shifts. It was --

Callan, B.: When you started here, was Oak Ridge and K-25 still fenced and gated?

McLaughlin, J.: No, there was no gates.

Callan, B.: There were no gates?

McLaughlin, J.: The gates had come down.

Callan, B.: When you got hired on, were you aware of the background checks and everything were conducted on you?

McLaughlin, J.: Oh my goodness, yes! When they -- when I accepted the job then they -- I got my clearance in three weeks. The FBI -- I'd only ever lived in two houses back in Tyrone, Pennsylvania. And Tyrone is a small town, and everybody knew just about everybody else, one of those kind of places. And people would ask my mother if I had done something wrong because the FBI was asking questions about me.

[1:25:42]

And so, yeah, I was well aware that it was going on. And it didn't bother me a bit. A lot of amusing things happened. People in the United States don't understand the nuclear business. They're scared to death of the word radiation. And when I first came to Oak Ridge, I would go back to my home town on vacation, and they'd say, "Hey, where have you been? I haven't seen you around town." And I'd say, "Well, I'm in Tennessee now. I'm working down there." And they'd say, "Where are you working?" And I'd say, "Oak Ridge." And they'd step back two or three spaces because I guess they thought we glowed in the dark down here or something. [laughs]

But we were very well taken care of, I think. We got physicals, complete physicals, good physicals. And they monitored our -- monitored our health, I thought, very, very well, much better than other industry because of what I've heard from other industry. But we -- I guess I never really -- well, I had a couple of minor accidents. I had a glass -- stop cock shatter and run a piece of glass in my hand. I guess that's the biggest accident I had when I was at the plants.

[1:27:48]

Yeah, and safety they were always talking about safety. And yeah, it was just a great place to work.

Callan, B.: I'm glad you brought all that stuff up because that was actually one of the topics I was going to cover, and you got it covered.

[crew talk]

[End of Tape 1, Begin Tape 2]

[2:00:00]

McLaughlin, J.: -- shut the school up. We had to walk home for lunch, walk back. We didn't think anything of it. Boy, now-a-days, the kids get all [laughs] --

Callan, B.: I know.

McLaughlin, J.: Yeah, but --

[crew talk]

Callan, B.: We are back. Let's talk a little bit about communicating around classified information. What was communication like between co-workers and your family having to deal with classified information?

[2:00:49]

McLaughlin, J.: My family didn't seem to mind the fact. I just did -- you know, they knew that I worked -- what I was doing was classified, and

they didn't question it. And as far as communicated at work, there was no problem because we all were cleared for, as I like to say it, the same rumors [laughs] and they -- we really didn't have a problem. It was controlled on a need-to-know basis. We, at K-25, didn't have access to the drawings and the weapons at Y-12, and we really didn't know what they did at X-10. We called that the country club.

Callan, B.: Why is that?

McLaughlin, J.: [laughs]. Well, they seemed to go to work on their own hours and everything. We had definite hours that we had to be at work, but -- yet, we did avail ourselves to go over there and use their expertise and some of their equipment that we didn't have anywhere else. But they were not -- they didn't have access to K-25 or Y-12, only on a very limited basis. And -- but they had a whole lot of foreign nationals working over there. And a lot of people with -- I don't think they had any clearance at all. But -- and still do. They have a lot of people out there like that. But my interaction was primarily with the people at Y-12 and Paducah and on a very limited basis Portsmouth.

[2:03:40]

I've been to Portsmouth, I guess, a couple of times and Paducah a couple of times, but I wasn't interested in going to Paducah and work because when you got to build a wall around the city to keep the Ohio River out, that's not my ball of wax because I had already been through two floods up there in Pennsylvania [laughs].

But we did -- Paducah didn't have the laboratory facilities that we had at K-25, and I don't think Portsmouth did either. And we were pretty up-to-date. We had not one but two electron microscopes and some very, very competent people working with it.

My first boss started out at -- in New York at laboratories up there. He was with the project right from the very start. Of course, I was in junior high school when they built the city of Oak Ridge. And so, I'm kind of a youngster compared to some of these guys.

Callan, B.: What were your co-workers like? Did everyone pull their weight?

McLaughlin, J.: Oh yeah! Yeah. Yeah, everyone worked together. We knew each other's capabilities and limitations and availed ourselves of each

other's expertises. Yeah, it -- great working atmosphere. None of this fussing or anything like that. Yeah, we had -- and we had a good time. There wasn't any horseplay or anything like that. Well, they wouldn't put up with it, I'm sure. But it was lots of fun to -- and we were all -- all our particular department was all in the same building. In fact we built a laboratory after I came there. And -- but it -- the Development Division was a fairly -- it was a close knit group, really. We weren't all in the same building in the sense that the other departments in different buildings, but we were all -- they were all adjacent to each other.

[2:07:28]

Callan, B.: You worked there primarily during the Cold War Era. What was the planned primary mission during that time?

McLaughlin, J.: We were still producing enriched uranium. I believe at that time, we were kind of middle man in three different diffusion plants. As I recall, I think that we got feed material from Paducah and we enriched it to a certain level, and then we shipped it to Portsmouth, who enriched it to a higher level. And consequently, we got Portsmouth tales to feed into the plant to further enrich that.

But the thing was -- the diffusion plant was running so well in my opinion that we had time to do this work on the early stages of the gas centrifuge project. And it was primarily done in our department, under Bill Wilcox's direction. But when there was something happened down in the barrier plant or out in the cascade that they needed to look at the materials, we were there and ready to go right away.

[2:09:44]

Callan, B.: Do you have any interesting stories or anecdotes that happened during the Cold War period at K-25?

McLaughlin, J.: Oh. [laughs] I don't know. We -- I really can't think of --

Callan, B.: If one comes to you, just --

McLaughlin, J.: Yeah.

Callan, B.: What did you do when the facility was put on standby? My

understanding is it went on standby in 1964.

McLaughlin, J.: No. It didn't go on standby till -- I didn't think it was as early as 1964.

Callan, B.: That's what Bill Wilcox's outline --

McLaughlin, J.: Is that right?

Callan, B.: Yeah. He said it was -- not shut down but was put on standby to where it --

McLaughlin, J.: Oh! Okay! I see what you're talking about. I thought -- no, boy when it was shut down, the K-25 building, you'd go down there and you'd be used to hearing the compressors running and everything, and you were in the building, the silence was deafening. I mean, all you could hear was water dripping here and there, where there were pipes leaking.

[2:11:22]

Well, you know, it was -- when they were operating, K-25 was one of the only places in the world probably where the chemical operators had to ride bicycles from place to place. You go down and come out of an office that would say, "Watch for bicycles." And here you are, you're on the third floor of the building. [laughs]

Yeah, being so big that -- I remember that I went one time to K-33 and I was going up on the cell floor. And they had an elevator, you could drive your truck in the elevator and go up on the -- you and your truck, and then you'd come out and you can drive all around the building. And I was in the south end of the building. And there was a -- water main broke on the north end of the building. And it spilled a quarter of a million gallons of water, from what I understand. I never even knew it was going on, and I was there. I mean, that's how big that building was. It's just hard to comprehend. What was it, 34 acres it covered or something like that?

[2:12:53]

And you had to know how to get around because all the cells

looked exactly the same. You'd go from one section to the next section, everything looked the same. And you could actually get lost up there because one thing -- yeah, this is something -- Bob Dyer ran -- and I think you already talked to Bob.

Bob was in charge of the K-31 and K-33 buildings. And when you'd call down on the telephone, he'd answer the phone, K-32 because he said that's easier than saying K-31 / K-33 operations. He says, "I just added them together and divided by two." And he had a picture on the wall of the number of chemical operators it took to run the place. It took, I think, 7½ men, and he had a half of a guy in the picture. [laughs] There was seven people and a half of another person. I'm not sure if that's the right number of men, but it was a very small quantity to run such a big operation.

And one of the things that really impressed me when I first came to Oak Ridge, they took me down to the central control room, and they had these line recorders, chart recorders, monitoring the electrical inputs. And this one was tracing out a line at 800 on a scale of 0 to 1,000. And I said, "Boy that must be a lot of electricity, 800 kilowatts." He said, "No, its 800 megawatts," which was an in -- essentially, invented megawatts for the K-25 operation for the huge amount of electricity that we ran. That's the reason Oak Ridge is here, is the availability of electricity.

[2:15:17]

And of course, we had a powerhouse, you know, that they built. It's gone now. It was torn down. But you were asking about during the cold war era. I had almost forgotten. One of the things that we did, we did some port work for the molecular anatomy program, which is a program over at X-10 that was run by Dr. Norman Anderson. It was wanting to look into the use of a continuous liquid centrifuge, zonal centrifuge. We did a lot of electron microscopy for them. They were located in the old powerhouse, which was no longer in use for generation of power.

And one of the things they did -- I guess this wasn't really publicized very much, but the liquid centrifuge was used to purify vaccines. I remember the polio vaccine that -- the vaccine was cultured in some kind of a medium. I don't know what it was. But when you tried to separate it out from the medium, you still had a lot of this trash from the medium that was in with the stuff. Well after you ran it through this continuous liquid centrifuge, you

separate almost all of stuff from the medium away. And it was really amazing how much purer those vaccines were. And we did that kind of work.

[2:17:18]

We also did some work through that program that was associated with -- well, it was the Oak Ridge Institute of Nuclear Studies. It's now -- I guess, Associated Universities or something. They had a cancer hospital here in Oak Ridge that they were treating people with leukemia. And we would look at samples from the blood from those people that had leukemia. And we kept -- we always saw these virus-like particles. I've never been convinced that leukemia was not some kind of viral infection, but that was up to the microbiologists to figure that out. All we did was supply the papers.

That program went on for a number of years. And these developments in the liquid centrifuge, which was developed at K-25, not in our department, but it was developed in K-25. And they made it that we could get much purer vaccines, particularly something like tetanus vaccine, which was cultured in eggs. A lot of people were allergic to the eggs. If they'd get the tetanus and had all this trash along from the egg, that it would make them very sick. Many people couldn't take the tetanus shot. But after this centrifuge had been developed, it purified the vaccine so there was a minimal side effect from the culturing medium.

[2:19:49]

Callan, B.: I think these are really good stories about how technology or scientific capabilities here.

McLaughlin, J.: Yeah.

Callan, B.: We've had other applications in the world, kind of revolutionized the world. What are your overall thoughts about how the activities that were done here at K-25 at Oak Ridge revolutionized the world or changed the world?

McLaughlin, J.: Well, the gas centrifuge development. It was a method of enriching uranium with far less power expenditure. That was the biggest cost, the gaseous diffusion. It was a tremendous amount of

power that we used. I think at one time I heard someone say we were using 10 percent of the total power output of the United States in the gaseous diffusion process. I don't know if that was just K-25 or K-25, Paducah, and Portsmouth combined. But that's a heck of a lot of electricity.

And the motors that they had, they were, at one time, were classified. Their horsepower may still be classified. But they were huge electric motors with a tremendous amount of horsepower and although they were purchased from vendors like, I guess, GE and Westinghouse, big electrical companies, they were maintained at K-25. If a motor would burn up, they'd take it to the motor shop and tear it apart and rewind that motor and put it back into service.

[2:22:18]

We had -- I don't know where it was developed, whether it was developed at K-25 or not. But we could actually plate metals with nickel without using any electricity. We had an electroless nickel plating process. I believe that was developed somewhere else but we were using it. I know I looked into it because they were plating some components in the cascade this way, and after a while they were starting to get a significant amount of phosphorus fluorides in the gas stream. And I was able to show that this was a phosphate process, and there was a lot of phosphorus captured in with the electroless nickel plating. And what was happening was UF_6 was leaching the phosphorus out in the gas stream.

We had a unique laboratory. We had gaseous fluorine piped right into the laboratory, just like most laboratory have compressed air and water. Yeah, we had it right in there. And, of course, this business of everybody being afraid of the nuclear industry and nuclear energy, the main problem is in school you think back when you were in high school or junior high in your science courses. The science book had a chapter on nuclear energy and the one on organic chemistry. And you never had -- the teachers never had enough time during the school year to teach all of the book. So they skipped the nuclear energy and the organic chemistry chapters. And mainly because a lot of them didn't understand, I think. But that's the reason today that everybody seems to be terrified of nuclear energy.

[2:24:55]

There are people in Knoxville that will not drink the water in Oak Ridge. So -- and actually their water is coming out of the dirtiest lake in the system. [laughs].

One thing we need to do is educate people, and it's going to be an uphill climb because people will shy away from radiation. And they get more radiation going out here and laying in the sun and getting a sun tan than we got in years working here at the plant, because we were monitored.

And I don't know. It's a communication problem, for one thing, but my kids never seem to worry about it. Daddy came home. He didn't glow in the dark. [laughs]. So, we used to have a lot of fun going places and telling them we had to go back to Oak Ridge because we had get reradiated. [laughter].

Callan, B.: I don't know. It must preserve your guys' brains or something because everybody I've interviewed so far have just been so bright and had so much to say. So I don't know. It must do some good for you, I guess. [laughs].

[2:26:52]

McLaughlin, J.: I don't know. Well, we liked what we did. What we did was to the betterment of mankind really. And we're proud of it.

Callan, B.: What do you think the future generations should remember about K-25 and about the work that was done here?

McLaughlin, J.: Well, first of all, in 1943 and 1944, the construction and the operation of that gaseous diffusion plant was an engineering marvel, it was an engineering undertaking that had never -- just totally encompassed anything that had been done anywhere else in the world. If you would have told them that you were going to have these hundreds of miles of pipe and they were all going to be a vacuum system, they would have thought you were crazy.

In spite of -- you know, they -- highly enriched uranium for the Hiroshima bomb, the higher part of the enrichment was done in the calutrons at Y-12. The feed material had been enriched to some level at K-25, before it was carried over to Y-12 to be inserted in the calutrons. And I think -- well I know what we did here helped to save thousands of American lives in World War II. There's no

question about it.

[2:29:21]

We have developed ways to make clean electrical power without contaminating the atmosphere. The -- nobody ever says anything, you know. If we, here in Oak Ridge, let 10 grams of depleted uranium go up the stack into the atmosphere, the newspaper and the television stations go berserk. We're contaminating the world. But nobody says a word about the fact that TVA dumps hundreds of pounds of uranium, fluorine, mercury, arsenic, and lead into the air every day in their coal fired steam plants because these materials are components of bituminous coal. And they go up the stack. They don't burn like the coal. They go up the stack. But nobody ever says anything about that. But we, here in Oak Ridge -- and I don't know how we can change it. It's kind of frustrating.

Callan, B.: Have to educate the best you can.

McLaughlin, J.: Yeah.

Callan, B.: Let's flip tapes here.

[End of Tape 2, Begin Tape 3]
[3:00:05]

Callan, B.: -- different job roles that people have, as far as like the roles of women and minorities at all?

McLaughlin, J.: Well, if we had them, I didn't know about them. I mean I worked with one of the finest electron microscope operators I've ever known. She was --

Callan, B.: Let's talk about her a little bit and the role that women and minorities had at the plant. You were mentioning a story to me (indiscernible).

McLaughlin, J.: Yeah. Well, we had a few women. Like I say, we had this one gal that was in our group that was outstanding electron microscopy. She was a graduate of Vanderbilt University and she was very particular and I guess -- she was a very important member of our group.

Now one thing, we had a secretary. Wilcox had a secretary, who was one of the finest. I mean, this girl she could work best when we had a deadline and it was fast approaching. Boy that girl really typed and put out the reports. And she was a very important person in our department because she sort of the administratively held the things together.

We had -- at K-25, we had one of the first Black metallurgist. He's a very good metaler, and I think we went -- he left K-25, and I think he may have gone to either Sandia, Albuquerque, or Los Alamos. I'm not sure.

[3:03:03]

When I first came here, there were evidences of the segregation because there were still restrooms marked "colored" and restrooms marked "white." And within -- or I was in -- while I was gone for two years when I was in the Army, that all disappeared. And -- but I don't know. We didn't have whole lot of minorities. But I think part of the problem was they weren't graduating in the sciences, really. Of course, they weren't all "ball o fires" either. But I don't recall of any problems that arose between the minorities. If there were, I just wasn't aware of it. They were all very cooperative people. And they, to my knowledge, weren't assigned nothing but the dirty jobs. But we just didn't have a whole lot of them at K-25 nor at Y-12, really. Of course, that was a later time, when I got to Y-12.

But -- now there was some real problems outside the city of Oak Ridge. I mean, blew up the high school over at Clinton; dynamited the darn place. And originally we had the Scarborough neighborhood, which were all black people. It still exists, but there are white people that live over there, and there are black people that live all over town in the city of Oak Ridge. To my knowledge, there's no minority problem.

The city of Oak Ridge, their school system, don't have it any more, but they had what they called the Spanish immersion program. And fortunately, my oldest granddaughter was in that program from the time I think she was in, I think, first or second grade until she graduated from high school. And she can speak Spanish with the best of them. And I think that's something that they should have kept in the system, but there were enough people that complained that the school board got rid of it.

[3:06:42]

We have a fair sized Latino population in this town. We have -- I worked with a black physicist at Y-12; fine gentleman, lives out on Lincoln Road, hard worker. I don't think that when I -- in my experience, I ever ran into anything in the way of racial discrimination at the plants. Now it could have been going on and I wasn't aware of it because I stayed pretty much in the lab, although at Y-12 I was out -- one of my jobs at Y-12 was when they had a program to disassemble weapons. I'd bring them in from stockpile and disassemble them to see if there's any interaction between the various materials that are inside the weapon.

And one of the jobs that I had was if they found something up at disassembly, they would call me on the phone and I would go up and we would decide on how to remove this -- well let's say it's corrosion. And I could get it back to the laboratory so we could take a look at it and figure out what was going on.

[3:08:40]

This was fun work. It really was. And we worked in the same way at K-25 if we had something that was troubling, they'd get the samples to the laboratory and we would look at it.

I remember one case in particular. It was a chemical operator that decided that he would help the government save money by using old Clorox bottles to put this one solvent in that was used in manufacturing barrier. And it turned out that there was enough residual chlorine in that [laughs] Clorox bottle that when they would get these spots on the barrier. And there was a project I worked on after I went to Y-12 because then we found out it was chlorine contamination from the Clorox bottle. But tracing it back to the Clorox bottle was a fun thing, I'll tell you. [laughs] I mean we already have brand new polyethylene bottles to put this stuff in, but he thought he was doing something to save the government some money.

And that's another thing. A lot of people think, "Boy these guys, they just had a free hand. They could spend all the money they wanted." And we didn't. And we'd look for ways to try and save

the taxpayer money. And so that's why we improved the barrier through the years.

[3:11:15]

The barrier that they use today at Paducah is far more technically advanced than the barrier that they used in 1944 or 1945 at K-25. We had some really -- we had one guy in particular. He was really instrumental, but he was a funny guy. He was a Ph.D. and the typical forgetful Ph.D.

I remember them telling a story about him. He had bought his wife a puppy. And she worked somewhere over in Knoxville. And he tied the puppy out on the deck so he could go -- he went to Sear's and bought a doggy bed and all kinds of things for the dog. And when he came back, the puppy wasn't there. The rope went out over the edge. The puppy was dead and was hanging on the end of the rope. [laughs].

So, he took the stuff back from Sear's and he got the same clerk. And the guy says, "Well you just bought this stuff an hour ago." And he said, "Yeah, but when I got home, the dog had committed suicide." [laughs].

But he was a genius, that man. I think he's still living. Have you interviewed a fella named Roger Anderson?

[3:13:12]

Callan, B.: No, we haven't yet, but that's someone that we can probably put on our list.

McLaughlin, J.: He lives in Knoxville, I think. I think he still lives over there. But this guy was a genius. He was responsible for 90 percent of the improvements in the barrier.

Callan, B.: Sounds like someone we should definitely get a hold of.

McLaughlin, J.: Yeah, he was really good.

Callan, B.: Just as sort of a wrap up question here, if you were writing a story about K-25, what topics would you cover?

McLaughlin, J.: Well it would be classified or unclassified? [laughs]

Callan, B.: I guess --

McLaughlin, J.: I guess if I wrote it, it would have to be classified because of the materials that we worked with, the materials that comprised the barrier. The ingenious seals that they had to these motors that drove the compressors were located outside. They couldn't be located in the gas stream, like the compressors were. But to transmit that energy, to rotate the compressor, from outside in the air and not let any air get in because if you got any air or any moisture inside the cascade, it would plug up the barrier. And it would stop the separation process. But they had developed this, and it's still classified. And these motors were going really high speeds.

[3:15:24]

And I believe I would write -- tell about the dedication of the people that worked there. You don't find that everywhere. They had a mission to do and they were proud that they were working on it and they went ahead and did their work. We had a product to produce. And we had a goal to achieve, and we went ahead and worked towards that goal. A lot of places you don't have that sort of thing today. The people that worked there, I thought -- they were all my friends. I thought that they were dedicated people. You didn't hear much in the way of complaining. They complained about the weather more than they did the jobs, really.

And, of course, I wasn't here in the days -- I didn't see the unpaved streets and the mud and everything that they talked about. But -- and everybody, to my knowledge, everybody when they left the plant, they left what went on in the plant inside the fence and they went home to their families. And I think that was kind of unique, you know. You didn't hear people talking about what they were doing, or if they did, they did in such a vague way, they were certainly not giving away any information.

[3:17:51]

When I came here, the word nickel was classified. It was secret. They finally declassified it, but -- and with regard to some things that went on during the cold war, it was kind of an amusing thing

but it was a scary thing. For some reason, X-10 wanted to have some little pellets of americium, which is highly radioactive. And they asked K-25 to produce it. They gave us the americium and the little forms that they were going to pour this metal into. And the guy that was doing it was -- had just melted the americium and poured the first one of these things when the radiation alarms when off. It scared the poor guy half to death, and they evacuated everybody out of the buildings.

And it turned out it was raining and water had reached the big -- through the roof and run down on the control panel of the radiation alarm and set the thing off, shorted it out. But that was kind of an amusing thing. I know it wasn't amusing for the guy that was doing it, but --

Yeah, we -- I'm trying to think if -- so many other things that. We had some interesting things go on. We had a man that took over as president of Union Carbide Nuclear. And his offices were at K-25. And this guy liked prime rib. And we had prime rib in the cafeteria five days a week for 65 cents. And we really -- when he was in charge, we really ate good, I'll tell you.

[3:20:35]

But no, the people at K-25 were, I think, were very dedicated. Oh they complained sometimes about the wages. I remember one guy went in. He got 2 percent raise. And he went in and complained to his boss about the 2 percent raise. And his boss took it back, and he didn't get another raise for 14 months.

Now one thing that happened I remember when I was out there, we had one year where we had no appropriation for gaseous diffusion development, none at all. And Bill Wilcox went out and went to Sandia and to Albuquerque and to Livermore. And by the time he was out -- and the work he brought in, we had more work to do than we had people to do it with. And then AEC wouldn't authorize overtime. So we worked without getting paid extra. In the 37 years I worked out there, I got paid overtime once. And that was one time when there was a guard strike at Y-12. And they got everybody that had military experience and brought them in and wanted them to be the substitute guard force. And we were out on the rifle range and we were out there two hours past quitting time. So I got paid for two hours overtime. That didn't bother me at all.

[3:22:43]

I never felt that I was being cheated in our -- my wages or anything. I was -- well I guess you can -- from what I've said you can tell I was happy working out there. And so, yeah, we had some great times. But -- and we had some great people to work with. Bill Wilcox is --

Callan, B.: He's quite a guy.

McLaughlin, J.: Yeah. And he's been my friend for 40 years. And I had dinner with him last night. And, yeah, he -- and he's a work-a-holic. Bill is 82 years old. And the day he can't have ten different meetings to go to in one day, within six months after that, we'll have to bury him because that's just what he lives on. And he does an outstanding job at it.

I'll never forget the first report I wrote for him. I was kind of proud of it. I thought it was pretty good. I had three pages, double spaced, and I showed it to my supervisor, and he passed it onto Wilcox, and I thought it was pretty darn good. And when it came back, it was all torn up. It had notes all over the margins [laughs], in between the spaces. Bill really tore it to pieces. But he taught me how to write. And he also taught me how to give a technical paper. He said, "You're the guy that did the work. None of these other guys were there. You get up there and tell them what you did." And that's the thing to do. So --

[3:25:27]

Callan, B.: Well I think we went through all the topics that I wanted to cover as far as K-25. Do you have anything else you want to add to history? Anything that I missed?

McLaughlin, J.: No. It's a darn shame they had to shut the place down, really. But I -- first of all, I do not think that we can -- under today's rules and regulations, we could have ever built K-25. We would all be speaking Japanese today because between the environment impact statements and all this other garbage that is required [laughs]. We -- I don't know. We didn't have to do any of those things. And yet we did our things, I think, in a very safe way. There's a lot of people that say they're sick from working out there. And the people that have berylliosis have legitimate illness. But I am not

one who is convinced that what they're looking for I know is a government giveaway.

[3:27:31]

But of course, I wasn't out on the operating floor either. But I know in the lab, we didn't have any real problems. Well, we all had an education and we knew what the hazards were. And gee whiz, I've breathed enough acetone and [laughs] all these other chemicals, but anyway. I guess that's about all I can tell you. Unless you've got some questions.

Callan, B.: I don't have any more questions for you. I just want to say thank you for coming down here and doing the interview with us.

McLaughlin, J.: Well, thank you for asking me.

[End of Interview]